

ET Series

Digital Platform Scales

ET-30KAM / ET-60KAL

ET-150KAL / ET-300KAX

INSTRUCTION MANUAL



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1. PRECAUTIONS

	 WARNING
	<p>DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, CLEANING, OR SERVICING. FAILURE TO DO SO COULD RESULT IN BODILY HARM OR DAMAGE THE UNIT.</p>

 CAUTION
<ul style="list-style-type: none"> • Permit only qualified persons to service the instrument. • Before connecting or disconnecting any components, remove the power adaptor. • Failure to observe these precautions may result in bodily harm or damage to the equipment.



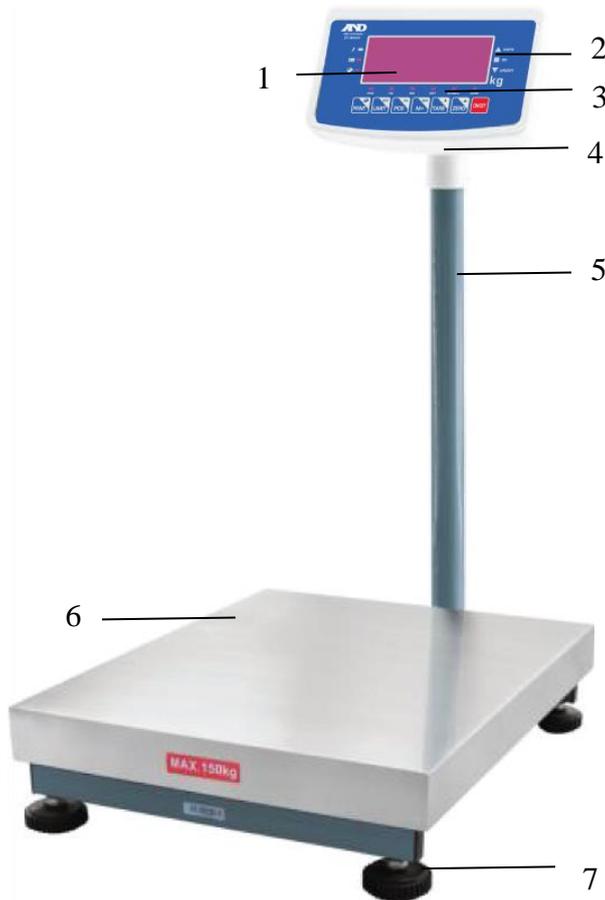
- The weighing indicator is a precision electronic instrument, handle it carefully.
- Do not install the scale in direct sunlight.
- Install the scale on a solid and level surface.
- Verify the local voltage and power adaptor are correct for the scale.
- Only use original power adaptor, others could cause damage to the scale.
- Do not install the scale where there is flammable or corrosive gas present.
- Do not install the scale near equipment which produces magnetic fields.
- Avoid unstable power sources. Do not use near large users of electricity such as welding equipment or large motors.
- Avoid sudden temperature changes, vibration, wind and water.
- Avoid heavy RF noise.
- Keep the indicator clean.

2. PRODUCT DESCRIPTION

2.1 General

- The ET series platform scale amplifies signals from a load cell, converts them to digital data and then displays them as a mass value.
- It is suitable for general weighing or more specialised applications such as check weighing, counting, motion weighing and accumulation applications.
- 52mm high LED display.
- There are three platform sizes: 300mm x 400mm (KAM), 400mm x 500mm (KAL), 500mm x 600mm (KAX)

2.2 Overall View



1. Weight display
2. Check weighing indicator
3. Keysheet
4. Indicator bracket
5. Column
6. Stainless steel pan
7. Adjustable leveling foot
8. RS232 port (Not available)
9. Load cell connector
10. Guide rail support base
11. End stop support base
12. AC adapter jack

3. INSTALLATION

3.1 Unpacking

When you receive the scale, inspect it to make sure that it is not damaged and that all are parts are included:

- Remove the scale from the carton.
- Remove the protective covering. Store the packaging to use if you need to transport the scale later.
- Inspect the indicator for damage.
- Make sure all components are included.
 1. Indicator
 2. Power Adaptor
 3. Instruction Manual
 4. Column assembly
 5. Platform base
 6. Stainless steel pan

3.2 Installing the platform

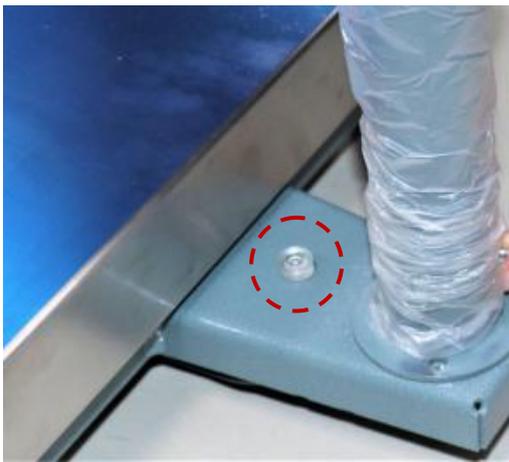


1 Place the scale on a level surface.

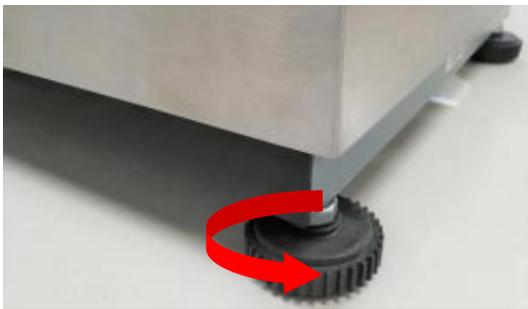


2 Remove the blue film from the pan.
3 Place the pan on top of the scale base.

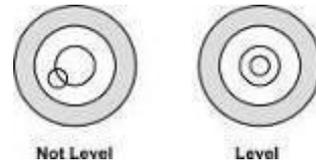
3.3 Leveling



The scale is equipped with a level indicator located on the back of the scale on the base bracket.



Use the adjustable leveling feet located on the bottom of the scale until the bubble appears in the center of the indicator.



3.4 Installing the column



- 1 Unscrew the three bolts in the base bracket by using a hexagon wrench.



- 2 Pull the display cable all the way through the pole so no slack is under the platform.
- 3 Place the column on the base bracket and ensure the holes to be aligned.



- 4 Secure the column with the bolts by using a hexagon wrench.

3.5 Installing the Indicator



- 1 Insert the indicator into the column bracket as shown.



- 2 Push down the indicator until you hear a click.

	<p>3 Connect the load cell cable into the indicator load cell connector. Load cell connector is located on the rear of the indicator.</p>
	<p>4 Tilt display to desired position with adjustment knob.</p>

3.6 Power Connection

- Connect the adaptor pin in to the indicator adaptor jack.
- Adaptor jack is located on the rear side of the indicator.
- Adaptor connects into your AC power socket. Scale must be installed near an easily accessible power point with a protective ground/ earth contact.

3.7 Rechargeable battery operation

Note: Please charge the battery before using the scale for the first time.

- The symbol  to the left side of the weight display indicates that the battery is getting low, and the display will be show **b-err**.
- Approximately 30 minutes of instrument usage is left; afterwards it will shut off automatically.
- Plug in the power adaptor to recharge the battery.

3.7.1 Charging the battery

- Before the first use, the battery should be charged by connecting it to the mains power supply for at least 5 hours.
- On the left side of the weight display there is a charging LED to indicate the status of battery charging
- Charge status of rechargeable battery is indicated by the LED display as follows.

Red: Charging battery
 Green: Battery is completely charged

3.7.2 Battery maintenance

- Do not use any other type of power adaptor than the one supplied with the scale.
- Rechargeable battery should be charged every three months when not in use.
- If the scale is not used for an extended period of time, remove the battery from the battery compartment to avoid leakage.
- Store the battery in a sealed bag or box in a dry, temperate environment.

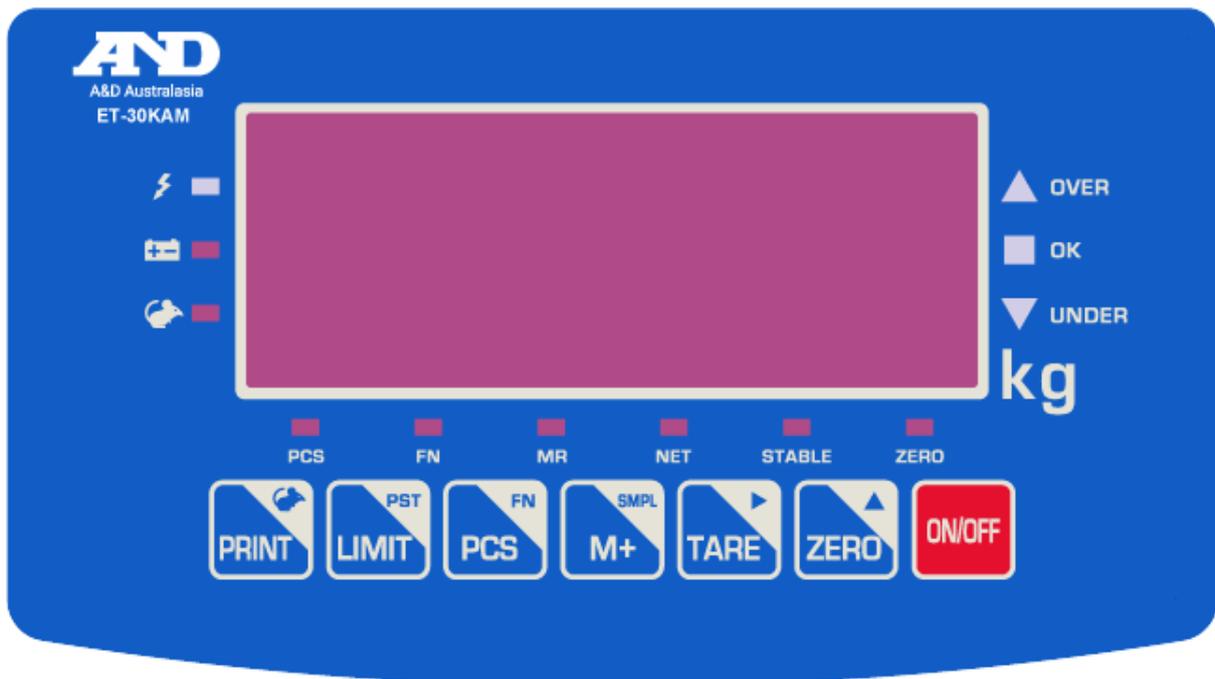
3.8 Load cell connections

- Connect the load cell cables to the terminal as shown below.
- The load cell drive voltage is 3.3V DC $\pm 5\%$ between Excitation + and Excitation -.

Pin	Connection
Pin 1	Signal +
Pin 2	Signal -
Pin 3	Shield
Pin 4	Exc -
Pin 5	Exc +

4. DISPLAY & KEYS FUNCTION

4.1 Keysheet



Keys	Description
	On/off switch. Used to turn the scale on or off.
	1) Zero switch. Used to clear and zero the display. 2) Value increment switch. Used to change the selected digit value.
	1) Tare switch. Used to perform a tare function, subtracts weights. 2) To change the menu option in the function menu. 3) Right arrow switch. Used to move the digit to the right.

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	<ol style="list-style-type: none"> 1) Accumulation switch. Used to enter and show accumulated weights in the memory. 2) Memory recall switch. Show the stored values from the memory. 3) Enter switch. Used to enter the selected menu, sub-menu and setting.
	<ol style="list-style-type: none"> 1) Count switch. Used to enter the counting mode. 2) Setup menu switch. Press and hold the switch to enter the setup menu.
	<ol style="list-style-type: none"> 1) Limit switch. Used to enter check weighing mode. 2) Press and hold the switch with ON/OFF key to enter calibration mode. 3) ESC switch. Used to exit the set-up menu.
	<ol style="list-style-type: none"> 1) Print switch. Used to send the data to printer or PC (Discontinued). 2) Press and hold the key to enter animal weighing mode.

4.2 Indication Description

	Charging indicator. Indicates the battery charging status.
	Battery indicator. Indicates battery is low and needs to be recharged.
	Animal weighing indicator. Indicates the scale is in animal weighing mode.
OVER OK UNDER	Limits indicator. Indicates the high-low limits in check weighing and counting mode.
PCS	
FN	
MR	Accumulation indicator. Indicates the scale is in accumulation mode
NET	Net indicator. Indicates scale is displaying the net weight.
STABLE	Stable indicator. Indicates the scale weight is stable.
ZERO	Zero indicator. Indicates the scale is at zero.
kg	Current weighing unit

5. OPERATION

Initial Start-up

Allow the scale to warm up for 15 minutes to stabilize the measured values after switching on.

5.1 Switching on/off

- Switch on the indicator by pressing  switch. The display will show the scale version and will start after self checking.
- After self checking, the display will be come to normal weighing mode.

- To switched off the scale, press  switch again.

5.2 Zero

- Environmental conditions can lead to the balance not showing zero in spite of the platform not taking any strain. However, you can set the display of your balance to zero any time by pressing  switch and therefore ensure that the weighing starts at zero.

5.3 Tare

- The weight of any container can be tared by pressing  switch so that with subsequent weighing the net weight of the object being weighed is always displayed.

Taring a container

- Load weight on the platform.
- Press  switch. Zero is displayed, and tare is subtracted. NET indicator light will be on.
- Remove weight on the platform. Tared weight is displayed. Only one tare value can be set. Tare weight will be shown with a minus value.

Muti-tare

- Load weight on the platform.
- Press  switch. Zero is displayed, and tare is subtracted. NET Indicator light will be on.
- Load another weight on the platform.
- Press  switch. Zero is displayed, and tare is subtracted. NET Indicator and stable light will be on.
- Remove weight from the platform. Total tared weight is displayed. Tared weight will be shown with a minus value.

Clearing tare

- To clear the tare value, remove the load from the platform.



- Press switch. Zero is displayed, the NET indicator light and tare weight is cleared.

5.4 Select Weighing Unit

The default weighing unit is kg, to change weighing units please enter function menu.

Operation:



- Press and hold switch 3 seconds to enter function setting in the normal weighing mode, the display will show "U KG "and the FN Indicator will be on.



- Press switch to select lb weighing unit, display will show "U lb "



- Press switch to confirm the selection.



- Press switch to exit to the normal weighing mode.

5.5 Check weighing & Counting Mode

When weighing or counting, an Upper and Lower limit can be set. When the value is within the limits an alarm will sound.



- To enable check weighing or counting function, press switch in normal weighing or counting mode. The display will show lim-on.



- To disable check weighing or counting function, press switch in normal weighing or counting mode. The display will show lim-of.

Note: Check weighing or counting available only when weight is more than 20d

5.5.1 Set Check Weighing & Counting Mode



- Press and hold switch 3 seconds in normal weighing mode. The display will show hi.



- Press switch to select check weighing & counting mode (HI/LOW/INSIDE/OUTSIDE).



- Press switch to confirm.

Check Mode	Description
INSIDE	<ol style="list-style-type: none"> 1. The weight is within the limits. The alarm will sound and the OK indicator will be illuminated. 2. The weight is below the lower limit. UNDER indicator will be illuminated. 3. The weight exceeds the upper limit. OVER indicator will be illuminated.
OUTSIDE	<ol style="list-style-type: none"> 1. The weight is within the limits. The OK indicator will be illuminated. 2. The weight is below the lower limit. The alarm will sound and the UNDER indicator will be illuminated. 3. The weight exceeds the upper limit. The alarm will sound and the OVER indicator will be illuminated.
Hi	<ol style="list-style-type: none"> 1. The weight exceeds the upper limit. The alarm will sound and the OVER indicator will be illuminated. 2. The weight is below the upper limit. The alarm will sound and the UNDER indicator will be illuminated.
LOW	<ol style="list-style-type: none"> 1. The weight is below the lower limit. The alarm will sound and the UNDER indicator will be illuminated. 2. The weight exceeds the lower limit. The alarm will sound and the OVER indicator will be illuminated.

Note: Check weighing available only when weight is more than 20d

5.5.2 Setting limits for target weight

- Press and hold  switch 3 seconds in the normal weighing mode. The display will show INSIDE.
- Press  switch to confirm. The display will show l0000.0
- Enter the lower limit value using the  switch to move the digits to the right and use the  switch to increment the value.
- Press  switch to confirm. The display will show h0000.0
- Enter the upper limit value using the  switch to move the digits to the right and use the  switch to increment the value.
- Press  switch to confirm. The display will show end and return back to normal weighing mode.

Note: To delete limits, enter 0000.0

5.5.3 Setting limits for target quantity

- Press  switch to enter counting mode. The display will show 0
- Press and hold  switch for 3 seconds in counting mode. The display will show INSIDE.
- Press  switch to confirm. The display will show l00000
- Enter the lower limit value using the  switch to move the digits to the right and using the  switch to increment the value.
- Press  switch to confirm. The display will show h00000
- Enter the upper limit value using the  switch to move the digits to right and using the  switch to increment the value.
- Press  switch to confirm. The display will show end and return back to normal counting mode.

Note: To delete limits, enter 00000

5.6 Accumulation



The scale can be set to accumulate manually by pressing the  switch. Before operation the scale should be stable and returned to zero. Accumulation is available only when the weight is more than 20d.

5.6.1 Accumulation Operation

- Place the weight on the platform.



- Press the  switch when the STABLE indicator is illuminated.
- The display will show the total saved value for two seconds and the MR indicator will be illuminated.
- Remove the weight from the pan.
- When the display shows zero and stable then place the next weight on the platform.
- These steps can be repeated until the memory gets full or 99 items have been recorded.

5.6.2 Memory Recall



- To recall the memory press  switch when the scale has nothing on the platform and the display is zero.
- The display will show the total saved value for two seconds.

5.6.3 Memory Clear



- Press the  switch in zero point. The display will show the total saved value.



- Press the  switch. All accumulation values will be cleared from the memory and the scale will return back to normal weighing mode.

5.7 Counting Mode

The scale can perform a counting procedure once the average weight of the part is known. Proceed by putting on a certain number of the parts to be counted. The balance determines the total weight and divides it by the number of parts. This is called the reference quantity. Counting is then carried out on the basis of the calculated average piece weight.

5.7.1 Enter Counting Mode



- In normal weighing mode, Press the  switch to enter the parts counting mode. The PCS indicator will be illuminated and the display will show **0**

5.7.2 Counting Mode Operation

- Press the  switch to change the parts quantity. The display will show **C00000**
- Change the parts quantity as you need by using the  switch to move the digits to the right and using the  switch to change the value.
- Place objects intended for sampling on the platform.
- Press the  switch to confirm. The display will show the quantity you set.
- Then add items and the display will update the parts quantity automatically.

5.7.3 Exit Counting Mode

Press the  switch to return back to normal weighing mode.

5.8 Animal Weighing Mode

This mode is used to weigh a moving object such as an animal.

5.8.1 To enter Animal Weighing Mode

Press and hold  switch 2 seconds in normal weighing mode and the scale will enter animal weighing mode. The display will flash **ANI-ON** and the animal symbol will be illuminated.

5.8.2 Animal Weighing Operation

- Place the animal on the platform.
- When the load is stable briefly, the weight will be locked for few seconds on the display.
- You can add or remove loads to update the locked weighing values.

5.8.3 Exit Animal Weighing Mode

To disable the animal weighing mode, press and hold  switch for 2 seconds. The display will flash **ANI-OFF** and the scale will return back to normal weighing mode.

5.9 Auto sleep function

This will allow the scale to enter into auto sleep mode for conserving power.

Operation:

- Press and hold  switch for 3 seconds to enter menu setting in the normal weighing mode. The display will show **u kg**
- Press  switch until the display shows **SDBY N**
- Press  switch to select Y or N option
- Press  switch to confirm
- Press  switch to exit menu and return back to normal weighing mode.

Option	Description
SDBY y	<ul style="list-style-type: none"> • To enable the auto sleep function. • When the scale is not in use for 50 seconds the scale will enter auto sleep mode. The last digit on the display will blink. • Press any key or add weight on the platform (the weight should be more than 20d), display will be come to normal weighing mode.
SDBY N	To disable the auto sleep function.

5.10 LED brightness

This allows you to adjust the LED brightness. There are three settings.

H: high M: medium L: low

To enable the function.

Operation:

- Press and hold  switch for 3 seconds to enter the menu setting in the normal weighing mode. The display show **u kg**
- Press  switch until the display shows **ledb-h**
- Press  switch to select option.
- Press  switch to confirm.
- Press  switch to exit menu and return back to normal weighing mode.

5.11 Internal Counts Checking

- Press  switch to turn on the scale.
- Press and hold  switch for 3 seconds during self-checking to check the internal counts.
- Press  switch to back to normal weighing mode.

5.12 Local Gravity Setting

- Press  switch to turn on the scale.
- Press and hold  &  switches together for 9 seconds during self-checking to enter local gravity setting.
- Release  &  switches until display shows **1.00000**
- Use the  switch to move digits to the right and use the  switch to increment the value.
- Press  switch to return back to normal weighing mode.

Note:

1. The new gravity value is the ratio between the gravity value of calibrated location and the gravity value of the scale's current location.
2. The new value needs to be entered after calibration is completed.

6. Functions

6.1 Function Settings

Enter into the Menu

- Press and hold the  switch for 3 seconds to enter the function settings in the normal weighing mode. The display will show **U KG** and the FN indicator will be illuminated.

Enter the Selected Menu

- Press  switch to scroll through the functions.

Select the Sub Menu

- Press  switch to choose the sub menu block one by one.

Return to Weighing Mode

- Press  switch to exit the menu and return to the weighing mode.

6.2 Function List

Menu	Sub Menu	Description	Default
U	U KG	To select the weighing unit Options: kg/lb	kg
	U LB		
BUAD	Buad48	To select the baud rate Options: 4800/9600	9600
	Buad96		
Rs (Not Available)	RS OFF	To set RS-232 communication function off	RS CO
	RS CO	Data send continues	
	RS SCO	Send data continuously, when stable	
	RS ST	Send data one time, when stable.	
	RS PR	Send data one time, when press print key in printer mode	
SDBY	SDBY Y	To enable the sleep mode function on	N
	SDBY N	To disable the sleep mode function off	
filt	Filt-1	To set filter speed Options:1/2/3/4/5	1
	Filt-2		
	Filt-3		
	Filt-4		
	Filt-5		
zero	Zero-0~ Zero-9	To set zero tracking range from 0d~9d Default range is 0d	0d
L-AZ	L-AZ-0~ L- AZ-9	To set return to zero when unload the weight range from 0d~9d	0d
ledb	Ledb-h	To set the brightness of LED Options: H: high M: medium L: low	L
	Ledb-m		
	Ledb-l		

7. CALIBRATION

- 1) Turn off the indicator.
- 2) Press and hold  switch for 10 seconds and then press the  switch together to turn on the scale.
- 3) Release the  switch until the display shows **d 5**
- 4) Press  switch to select the division (1/2/5/10/20/50) as you need.
- 5) Press  switch to confirm. The display will show **p 0.00**
- 6) Press  switch to select the decimal point (0/0.0/0.00/0.000/0.0000) as needed.
- 7) Press  switch to confirm. The display will show **FULL**
- 8) Press  switch to confirm. The current full capacity weight will be displayed and PCS indicator will be illuminated. Use the  switch to move digits to the right and the light below the corresponding digit will be on. Use the  switch to increment the value.
- 9) Press  switch to enter zero-point calibration. If the display shows **no load** remove the load on the platform. The platform must be empty when performing calibration.
- 10) Press  switch to confirm while stable indicator is on. The display will show **adload**
- 11) The calibration weight will be displayed. To change weight value, press the  switch to move digits to the right and the light below the corresponding digit will be on. Use the  switch to increment the value.
- 12) Press  switch to confirm.
- 13) Load the calibration weight on the platform.
- 14) Press  switch to confirm. The calibration is finished. The display will show **end** and return to the normal weighing mode.

Calibration Weights

Model	kg
ET-30KAM	30kg
ET-60KAL	60kg
ET-150KAL	150kg
ET-300KAX	300kg

A&D Australasia Pty Ltd

Head Office & Warehouse
32 Dew Street,
Thebarton SA 5031

A&D New South Wales Office
Unit 4, 14 Abbott Road,
Seven Hills NSW 2147

A&D Victorian Office
Unit 38, 326 Settlement Road
Thomastown VIC 3074